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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/522,418

10/17/2005

Tjay Tjien Tjioe

4662-317

5660

23117 7590 11/26/2008
NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER

BALASUBRAMANIAN, VENKATARAMAN

ART UNIT

PAPER NUMBER

1624

MAIL DATE

DELIVERY MODE

11/26/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/522,418	Applicant(s) TJIOE ET AL.	
	Examiner /Venkataraman Balasubramanian/	Art Unit 1624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-10,12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-10,12 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/3/2008 has been entered. Claims 1-5, 7-10, 12 and 13 are now pending.

The following 103 rejection made in the previous office action is maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-5, 7-10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coufal US 6,355,797 in view of Van Hardeveld US 4,408,046 for reasons of record. To repeat:

The scope and contents of the primary prior art:

The instant invention relates to purification of melamine crude melamine by mixing two melamine containing flows and subsequent treatment with water for further purification. Coufal teaches a process for cooling melamine by mixing a stream of liquid melamine with another batch of solid melamine, which includes instant process. See column1, lines 40-67 and column 2-4 for details of the process. Note both high pressure and low pressure melamine mixing is taught. In addition cooling with ammonia is taught. See example, column 4, lines 40-51. Thus, Coufal teaches mixing of two melamine-containing streams.

The differences between the prior art and the claims at issue:

Instant claims 3-4 and 7-13 differ from Coufal in reciting treating melamine flows with water and using the aqueous phase for further purification and isolation of solid melamine.

The level of ordinary skill in the pertinent art:

The secondary reference Van Hardeveld teaches a process of purifying melamine wherein melamine melt is quenched with water or an aqueous solution as required by instant claims. See col. 3, lines 31-68 and col. 3, lines 1-46. Particularly note the wet catch method is taught for both high and low or medium pressure process. See details of the process shown on col. 3, lines 50-68 and col. 4 through col. 5. Note depending upon the amount of water utilized the process yields either a solution of melamine or suspension. Van Hardeveld also teaches, after isolation of the product melamine, recycling of the residual aqueous stream after separation of melamine. See column 4.

Thus the combined references Coufal and Van Hardeveld teach that crude melamine can be purified advantageously by treating the melamine from two different processes by cooling with ammonia followed by quenching with water, then recrystallizing melamine and recycling part the residual aqueous stream containing melamine.

Considering objective evidence present in the application indicating obviousness or nonobviousness.

Instant specification has no showing of unexpected or superior results using such the said process to distinguish over prior art process.

Hence, one having ordinary skill in the art at the time of the invention was made would have been motivated to combine the primary and secondary references and employ the process for producing pure melamine by mixing melamine from different

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process and cooling with ammonia first followed by quenching with water and recycling the mother liquor containing residual melamine and expect to obtain melamine of desired purity- because he would have expected the analogous reaction conditions provide product of similar purity. It has been held that application of an old process to an analogous material to obtain a result consistent with the teachings of the art would have been obvious to one having ordinary skill.

See also MPEP 2144.05, which says, under Optimization Within Prior Art Conditions or Through Routine Experimentation:

Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (Claimed process which was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to be prima facie obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100°C and an acid concentration of 10%). See also *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969) (Claimed elastomeric polyurethanes which fell within the broad scope of the references were held to be unpatentable thereover because, among other reasons, there was no evidence of the criticality of the claimed ranges of molecular weight or molar proportions.). For more recent cases applying this principle, see *Merck & Co. Inc.*

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v. Biocraft Laboratories Inc., 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); In re Kulling, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997).

This rejection is same as made in the previous office action but now excludes cancelled claims 6 and 11.

Applicants' traversal to overcome this rejection is not persuasive. The thrust of the traversal is that instant claims recite mixing two streams of melamine from different process and that is not obvious.

First of all, mixing two stream of melamine for further processing is within the skill set of one trained in the art. Coufal teaches mixing of two melamine and the secondary reference clearly provides the processing from both high pressure process and low pressure process. The dependent claims use further comprising steps and are clearly taught in Van Hardeveld. Thus one trained in the art would be motivated to mix melamine either from the same stream or otherwise and process the melamine thus mixed. Hence simple mixing of two streams of melamine by itself cannot be deemed as inventive step and such a process would be obvious.

There is no showing that only by mixing two different streams of melamine from two different processes one would get unexpected superior results. It is held that once the melamine is mixed the process of purification would be obvious variant of the prior art cited above and that it would be within the skill set of one trained in the art two mix two streams of melamine form two different process given the fact such mixing of two streams is taught in the references cited above.

Hence, this rejection is proper and is maintained. It has been held that application of an old process to an analogous material to obtain a result consistent with the teachings of the art would have been obvious to one having ordinary skill. Note *In re Kerkhoven* 205 USPQ 1069. Also see *In re KSR International vs. Teleflex Inc.*, 82 USPQ2d 13-85, 1397 (2007).

Note in *KSR International Co. v. Teleflex Inc.*, 127 S.Ct. 1727 (2007), wherein the court stated that

[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.

Such is the case with instant claims.

Mixing two different stream of melamine from any different process is within the skill set of one trained in the art. Claim 1 has no further limitation other than mixing melamine streams form different processes. There is no showing by the applicants that mixing two different streams of melamine is unexpected superior process. In addition, Coufal and Van Hardeveld teach how to treat melamine stream for the purification of melamine and hence limitation of claim 2-13 such as cooling the melamine or treating the melamine with ammonia under pressure at different temperatures are clearly taught in these two references.

Hence, based on these teaching , which provide guidance to guidance to purify

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melamine stream, one trained in the art would be motivated to purify melamine either from single stream or two different stream from different process. As noted by the court, "If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense".

Applicants have added additional particle size as additional limitation and argued that the instant process yields smaller particle size melamine as compare to comparative example in the specification.

But instant specification does not recite the criticality of particle size and includes a range of 10-1000 μ m which definitely includes the particle size of melamine of the comparative example.

In addition, applicants have not compared the particle size of prior art cited. Note this prior art Coufal was cited in the International Search Report. Since Coufal silent about the particle size of melamine and without proper comparison it is not possible to decide whether instant process has any unexpected results given the fact that criticality of particle size limitation is not recited as originally presented. Furthermore, claim 1 as recited is not limited melamine stream containing water and as recited would include the melamine streams of Coufal.

Hence, this rejection is proper and is maintained.

Conclusion

Any inquiry concerning this communication from the examiner should be addressed to Venkataraman Balasubramanian (Bala) whose telephone number is (571) 272-0662. The examiner can normally be reached on Monday through Thursday from

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8.00 AM to 6.00 PM. The Supervisory Patent Examiner (SPE) of the art unit 1624 is James O. Wilson, whose telephone number is 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned (571) 273-8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAG. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-2 17-9197 (toll-free).

/Venkataraman Balasubramanian/

Primary Examiner, Art Unit 1624

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